

Customer Service Workshop Action Team: First Set of Action Items

Filling out the feedback forms:
Please give us feedback on our products and
services. And on what we do well at and
where we need to improve.
Please be as thorough as possible.
You will have time at the end of the workshop to
review and answer during the final discussion
to fill these out.
Please place in the computer bag at the
end of the workshop in the box to the
right of the door.

*National Weather Service
Paducah, KY
August 2008*

How to interpret this presentation

- All of the comments that are displayed in this presentation are actual comments taken from the attendees at our four workshops.
- Every surveyed NWS product will be listed with the related comments.
- Each comment was carefully analyzed and then an action item(s) was created to address the comment.
- If you have any questions, comments or concerns about any of the information provided, please contact Christine Wielgos or Rick Shanklin at Christine.Wielgos@noaa.gov or Ricky.Shanklin@noaa.gov
- We attempted to categorize what our response should be (need for education, send this up to a higher level, etc) for each comment. Education means that we need to improve our education program for our users. The information is there, but we need to make it clearer and easier for our customers. Different products are created for different types of users and not all products are useful in all situations.

ZONE FORECAST PRODUCT

COMMENT: *During severe weather continued updates are needed.*

ACTION ITEM: Our office will strive to keep the zone forecast product as up to date as possible. However, there are other products you can utilize to receive the latest severe weather information. These include: the short term forecast, special weather statements, area forecast discussions, and Storm Prediction Center (SPC) products. The easiest way to access these products is via the text products webpage: http://www.crh.noaa.gov/pah/weather/prod_index.php
Or simply choose TEXT PRODUCTS under the “Forecasts” section on the left side menu on our homepage.

COMMENT: *The term “POP” is difficult to understand for the layman.*

ACTION ITEM: We will create an in depth explanation of POP and add it to our Weather Education webpage: <http://www.crh.noaa.gov/pah/?n=education>
Or simply choose WEATHER EDUCATION under the “Education and Training” section on the left side menu on our homepage.

COMMENT: *We need the wind forecast beyond 3rd day.*

ACTION ITEM: Further investigation will be needed to inquire as to if this can be allowed. This item will be raised above our local NWS level to our regional headquarters.

ACTION ITEM: Education - The wind forecast is produced beyond the third day of the forecast in graphical format. Visit this webpage for our graphical forecasts:
<http://www.crh.noaa.gov/ndfd/graphical/sectors/pah.php>
Or simply choose GRAPHICAL under the “Forecasts” section on the left side menu on our homepage.

ZONE FORECAST PRODUCT

COMMENT: *Add a legend of acronyms/definitions.*

ACTION ITEM: We will work toward upgrading our website so you will have more information at your fingertips. Our goal is to have all acronyms and other terms highlighted, so with one click, you can receive additional information. This is already done on some of our web pages, but not all. For even better service, we will work toward enabling mouse over programming, which means you could mouse over any highlighted acronym or term to obtain a definition or graphic.

In the mean time, you can find acronym meanings and definitions for weather terms in several different places on our website.:

The WFO Paducah Service Guide: <http://www.crh.noaa.gov/pah/?n=navigator>

Or simply choose SERVICE GUIDE under the “Local Information” section on the left side menu on our homepage.

NWS Weather Glossary: <http://www.weather.gov/glossary>

ZONE FORECAST PRODUCT

COMMENT: *Make this product more county specific.*

ACTION ITEM: The only way to make this product more county specific would be to create a 58 county Zone Forecast Product, since the NWS in Paducah serves 58 counties. However, this would create a very lengthy product and possibly hard to read. ***We need your input on whether or not this would be a practical method of creating the Zone Forecast Product and if it will be beneficial for you.***

Some other ways to receive more county specific weather forecast information include the point and click map on our homepage, the Area Forecast Matrices and the graphical forecasts.

On our homepage (www.weather.gov/pah), click on your location on the map to receive point specific weather forecast information.

The easiest way to access the Area Forecast Matrices (AFM) is via the text products webpage:

http://www.crh.noaa.gov/pah/weather/prod_index.php

Visit this webpage for our graphical forecasts:

<http://www.crh.noaa.gov/ndfd/graphical/sectors/pah.php>

Or simply choose GRAPHICAL under the “Forecasts” section on the left side menu on our homepage.

ACTION ITEM: We plan on adding a statement to the bottom of the zone forecast product that states “For more detailed forecast information for your exact location, visit www.weather.gov/pah and click on your location on the map or utilize NWS graphical forecasts.”

AREA FORECAST MATRICES/POINT FORECAST MATRICES

COMMENT: *These products are confusing to try and read.*

ACTION ITEM: We agree - at first glance, these products are confusing to decipher. But by studying the very detailed instructions on how to read the AFM and PFM, you will become more comfortable reading these products. To access these instructions, visit the NWS Paducah Service Guide at: <http://www.crh.noaa.gov/pah/?n=navigator> and click on Interpreting the AFM/PFM. You can also access this guide by simply choosing SERVICE GUIDE under the “Local Information” section on the left side menu on our homepage.

COMMENT: *We need to be able to read these products very quickly and feel they are too complicated.*

ACTION ITEM: There may be other NWS Products that will benefit you more than the AFM and PFM. The initial purpose of these products was for automation and for ease of ingestion into other programs/software. All of the forecast information that is coded into the AFM and PFM is available in other formats:

- Graphical: <http://www.crh.noaa.gov/ndfd/graphical/sectors/pah.php>

Or simply choose GRAPHICAL under the “Forecasts” section on the left side menu on our homepage.

- Hourly Weather Graphs: These graphs are created when you click on the map on our homepage and then click on Hourly Weather Graphs link, which is found on the bottom right hand corner of the webpage.

AREA FORECAST MATRICES/POINT FORECAST MATRICES

COMMENT: *We need list of acronyms for these products.*

ACTION ITEM: Please consult the NWS Paducah Service Guide for list of acronyms. To access the NWS Paducah Service Guide at: <http://www.crh.noaa.gov/pah/?n=navigator> and click on Interpreting the AFM/PFM. You can also access this guide by simply choosing SERVICE GUIDE under the “Local Information” section on the left side menu on our homepage.

ACTION ITEM: We will work toward upgrading our website so you will have more information at your fingertips. We will work toward enabling mouse over programming, which means you could mouse over any highlighted acronym or term to obtain a definition or graphic.

COMMENT: *These products are not aviation specific.*

ACTION ITEM: All of the terminals that the NWS in Paducah issues TAFs for, are also forecast points in the PFM.

AREA FORECAST DISCUSSION

COMMENT: *You use too much jargon and this product should be written for lay people.*

ACTION ITEM: Most meteorological words in an Area Forecast Discussion will have a link which can click to receive their definition. In the future, our goal is to enable mouse over programming, which means you could mouse over any highlighted acronym or term to obtain a definition or graphic.

ACTION ITEM: At this time, if you access the Area Forecast Discussion off of our Text Products webpage, you will not see any highlighted acronyms or terms. We will work to find out why this is happening.

COMMENT: *We would like more thorough discussions and more detail in this product, even on quiet days.*

ACTION ITEM: Education - Our intention is to strike a balance; we infuse science but still make this product as easy to understand as possible.

AREA FORECAST DISCUSSION

COMMENT: We would like the forecasters to sign this product.

ACTION ITEM: This is actually a privacy issue and NWS Directives state that this is optional.

COMMENT: *There is some inconsistency in the issuance of this product and suggest this product should be issued at least 1 hr before the Zone Forecast Product is issued.*

ACTION ITEM: Education- The NWS Paducah policy on AFD transmission is 30 minutes ahead of the Zone Forecast Product, but we strive for an hour. In addition, unusual circumstances do arise that prevent the timeliness of this product (NWS directives state that this product can be issued as late as 1 hr past the zone forecast product to account for these circumstances).

In addition, the NWS in Paducah will strive to issue Area Forecast Discussion updates whenever substantial changes are made to the forecast.

For the aviation community, we have implemented a new policy in which we will issue an Aviation Forecast Discussion whenever the routine TAFs are issued (12Z, 18Z, 00Z and 06Z). Expect to see the Aviation Discussion between an hour and hour and a half before the TAF valid time.

We will send a proposal to our Regional Headquarters for an independent aviation forecast discussion product, so it can be separate from the Area Forecast Discussion product.

REGIONAL WEATHER SUMMARY

COMMENT: *We wish they could use this product to describe the weather for pilots.*

ACTION ITEM: Education – The aviation section of the Area Forecast Discussion will contain all the necessary weather information for pilots.

COMMENT: *This product is hard to read.*

ACTION ITEM: Education - This product is meant to be a conversational summary. We attempt to use plain language that does not include too much meteorological/technical wording. Please utilize the NWS Glossary for additional help on weather terms not well understood.

COMMENT: *We would like more detail in this product, including large scale processes, but also would like it to remain easy to understand.*

ACTION ITEM: Education –This product is already written in laymen's terms to be an easy to understand product. It is meant to be a general overview of the weather, discussing the weather patterns and their affect on our weather. For more detailed information, please read the Area Forecast Discussion.

ACTION ITEM: We plan on adding a statement at the bottom of the Regional Weather Summary that will state, for more detailed meteorological information, refer to the Area Forecast Discussion at www.weather.gov/pah under the Text Products link.

SHORT TERM FORECAST

COMMENT: *We would like this product to be updated more.*

ACTION ITEM: Education - Sometimes an hourly short term forecast is warranted, other times, the weather is unchangeable for a few hours. It is written to enhance the existing forecast. Rapidly changing or evolving weather will require more frequent issuances. The short term forecast is less likely to be issued in an unchanging weather situation, i.e. scattered showers.

COMMENT: *During severe weather, we would like more frequent reports, more descriptions, even to know that no reports are coming in or even if too many reports are coming in.*

ACTION ITEM: Education – For severe weather reports, please see the LSR (Local Storm Report) product and short fuse warning products such as the Severe Thunderstorm Warning, Tornado Warning and Severe Weather Statement. The easiest way to access these products is via the text products webpage: http://www.crh.noaa.gov/pah/weather/prod_index.php
Or simply choose TEXT PRODUCTS under the “Forecasts” section on the left side menu on our homepage.

SHORT TERM FORECAST

COMMENT: *We would like more detail in this product as it can be very vague at times.*

ACTION ITEM: Education - Sometimes the weather changes so rapidly that it is near impossible to be that detailed. We always attempt to add as much detail as the weather situation will allow. We will work toward adding more detail to our short term forecasts. Utilize radar images for the most up to date information on precipitation trends.

COMMENT: *We would like this to be alerted to their cell phones.*

ACTION ITEM: Education - You can utilize this website, mobile.weather.gov, as a one stop shopping webpage that is formatted for cell phones.

ACTION ITEM: As far as having products, such as short term forecasts, alerted to your cell phone, we will raise this issue to up Central Regional Headquarters. We would like to have all our products formatted to be cell phone friendly and centralized on one web page. We will also try to work with our programmers to develop a way to detect what type of browser is accessing our web pages and deliver a appropriate format for cell phones.

SEVERE THUNDERSTORM/TORNADO WATCH

COMMENT: *The watches cover a very broad area and we would like a more exact location.*

ACTION ITEM: Education- The main idea behind a watch is to cover a broad area. For more detailed information, you should consult SPC's convective outlooks, probabilistic graphics, mesoscale discussions, which can narrow down the area(s) of most concern. A watch is usually issued over the entire area that is favorable for severe thunderstorms or tornadoes.

COMMENT: *Send out the county list as soon as possible.*

ACTION ITEM: Education – Let's review the process of a watch issuance:

1. The Storm Prediction Center (SPC) considers a severe thunderstorm or tornado watch.
2. SPC contacts all the affected National Weather Service offices for a short conference via phone.
3. After ironing out any finer details between the NWS offices, SPC issues a product called the SAWn, where n=0-9 and is the last digit in the watch number. This product provides vital preliminary information for Severe Thunderstorm and Tornado Watches in an abbreviated format, mainly for the aviation community. Here is an example:

```
SAW4
WW 754 SEVERE TSTM MT 262035Z - 270400Z
AXIS..95 STATUTE MILES EAST AND WEST OF LINE..
65ENE HVR/HAVRE MT/ - 90ESE LWT/LEWISTOWN MT/
..AVIATION COORDS.. 80NM E/W /57ENE HVR - 58NE BIL/
HAIL SURFACE AND ALOFT..3 INCHES. WIND GUSTS..60 KNOTS.
MAX TOPS TO 500. MEAN STORM MOTION VECTOR 26030.

LAT...LON 48880636 46520572 46520972 48881054

THIS IS AN APPROXIMATION TO THE WATCH AREA.  FOR A
COMPLETE DEPICTION OF THE WATCH SEE WOUS64 KWNS
FOR WOU4.
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SEVERE THUNDERSTORM/TORNADO WATCH

Then a product called the SELn (again, the “n” is the last digit in the Watch number) is issued, immediately after SAWn, and gives more specific watch information. An example of a SELn is shown to the right.

SPC then issues a product called the WOU – Watch Outline Update, which lists ALL the states and counties that are under the watch.

While SPC is issuing these products, the local NWS offices are each issuing a WCN. The WCN product is the Watch County Notification Message. It provides an official list of all counties included in a tornado or severe thunderstorm watch for a specific NWS office. Also included is the type of watch, its corresponding number, the expiration time, and relatively large cities and towns in the watch area. This product may be issued to adjust the counties included in the watch, extend the valid time of the watch, or cancel the watch. As NWS offices update their WCN, this information is ingested at SPC and a new WOU product is issued at the top of each hour, updating you on which states and counties remain in the watch.

URGENT - IMMEDIATE BROADCAST REQUESTED
SEVERE THUNDERSTORM WATCH NUMBER 754
NWS STORM PREDICTION CENTER NORMAN OK
235 PM MDT SAT JUL 26 2008

THE NWS STORM PREDICTION CENTER HAS ISSUED A
SEVERE THUNDERSTORM WATCH FOR PORTIONS OF

NORTH CENTRAL AND NORTHEAST MONTANA

EFFECTIVE THIS SATURDAY AFTERNOON AND EVENING FROM 235 PM UNTIL
1000 PM MDT.

HAIL TO 3 INCHES IN DIAMETER...THUNDERSTORM WIND GUSTS TO 70
MPH...AND DANGEROUS LIGHTNING ARE POSSIBLE IN THESE AREAS.

THE SEVERE THUNDERSTORM WATCH AREA IS APPROXIMATELY ALONG AND 95
STATUTE MILES EAST AND WEST OF A LINE FROM 65 MILES EAST
NORTHEAST OF HAVRE MONTANA TO 90 MILES EAST SOUTHEAST OF
LEWISTOWN MONTANA. FOR A COMPLETE DEPICTION OF THE WATCH SEE THE
ASSOCIATED WATCH OUTLINE UPDATE (WOU564 KWNS WOU4).

REMEMBER...A SEVERE THUNDERSTORM WATCH MEANS CONDITIONS ARE
FAVORABLE FOR SEVERE THUNDERSTORMS IN AND CLOSE TO THE WATCH
AREA. PERSONS IN THESE AREAS SHOULD BE ON THE LOOKOUT FOR
THREATENING WEATHER CONDITIONS AND LISTEN FOR LATER STATEMENTS
AND POSSIBLE WARNINGS. SEVERE THUNDERSTORMS CAN AND OCCASIONALLY
DO PRODUCE TORNADOES.

OTHER WATCH INFORMATION...CONTINUE...WN 753...

DISCUSSION...SEVERE STORMS ARE NOW DEVELOPING SWD ALONG AN OUTFLOW
BOUNDARY OVER NORTH CENTRAL MT EXTENDING ACROSS SRN HILL AND NRN
CHOUTEAU CNTYS BORDER...WHILE NEW STORMS ARE DEVELOPING OVER HIGHER
TERRAIN NEAR LWT. AIR MASS IS MOIST WITH DEW POINTS IN THE UPPER
40S TO MID 50S...AND STEEP LAPSE RATES ARE RESULTING IN MODERATE
INSTABILITY WITH MLCAPE OF 1500-2000 J/KG. WESTERLY MID LEVEL WINDS
OF 35-45 KT AND ASSOCIATED DEEP LAYER SHEAR AOA 40 KT WILL ENHANCE
STORM ORGANIZATION AND INTENSITY. ALTHOUGH STORMS MAY REMAIN
ISOLATED TO WIDELY SCATTERED IN COVERAGE...THERE IS POTENTIAL FOR A
FEW LONG-LIVED SUPERCELLS TO DEVELOP THIS AFTERNOON AND EVENING WITH
THREAT FOR VERY LARGE HAIL AND DAMAGING WIND GUSTS.

AVIATION...A FEW SEVERE THUNDERSTORMS WITH HAIL SURFACE AND ALOFT
TO 3 INCHES. EXTREME TURBULENCE AND SURFACE WIND GUSTS TO 60
KNOTS. A FEW CUMULONIMBI WITH MAXIMUM TOPS TO 500. MEAN STORM
MOTION VECTOR 26030.

SEVERE THUNDERSTORM/TORNADO WATCH

COMMENT: *It can still be a little confusing who is issuing watches (and for what counties) and cancelling the watches. It is more difficult to keep up with the counties being dropped from a watch when it is coming from multiple NWS offices.*

ACTION ITEM: Education – As mentioned in previous slides, the Storm Prediction Center or SPC is solely responsible for issuing the initial watch. A WFO usually cancels a watch or a portion of a watch. Hopefully the detailed process of a watch issuance described in the last few slides clears up some of the confusion. In addition, NOAA Weather Radio serves counties outside of our county warning area, therefore you may hear counties being cancelled from different offices (i.e. Mayfield transmitter serves Henry and Weakley counties, which are served by the NWS in Memphis TN). The WCN should be the final word on which counties are still in a watch in that particular NWS office's warning area. The WOU that SPC issues will have all the updated WCNs from all the NWS offices affected by the watch and that product can give you an all inclusive look at remaining states/counties in a watch.

SEVERE THUNDERSTORM WARNING TORNADO WARNING

COMMENT: *In some cases, a warning is issued too late to inform residents.*

ACTION ITEM: Education -A warning is issued for the severe or tornadic part of a storm and the storm could already be affecting the county before a warning is issued. The key is to make sure to have a county buffer with your NOAA Weather Radio programming, if possible.

ACTION ITEM: We will create an online presentation to help you understand the warning process and NWS warning philosophy.

COMMENT: *We would like more exact location.*

ACTION ITEM: Education - With the implementation of polygon warnings, we are not warning based on geographic boundaries (county) anymore – we are warning for the storm(s) by tracking the storm. The lat/lon coordinates also tell the specific location of a storm in the warning. The exact location is already being displayed visually (TV/internet/NWS webpage). Technology has allowed for enhanced services through vendors. NOAA weather radio technology will eventually catch up to allow for more detail in the broadcast. New radar technology is in the NWS's future that may allow meteorologists to pinpoint severe weather with more accuracy.

SEVERE THUNDERSTORM WARNING TORNADO WARNING

COMMENT: *Include any observed details (Spotter reports) in warning text.*

ACTION ITEM: Education - We include any spotter reports in our warnings if we receive them in time. If we have a storm report that is the sole basis for the warning, it WILL be included in the warning. Sometimes we receive reports too late to include in a warning or statement and therefore issue them in a Local Storm Report (LSR). We would like to eventually develop a live map of LSRs on our website that auto updates whenever a new report arrives.

COMMENT: *We would like to see the time that storms will strike a certain city or county and direction.*

ACTION ITEM: Education - We strive to do this if applicable, but storms do change speed/direction and the pathcast (list of towns) we provide is what was the most accurate at the time of the warning. The Severe Weather Statement will update you on the status of the storm (i.e. direction, speed, severity)

SEVERE THUNDERSTORM WARNING TORNADO WARNING

COMMENT: *Storm based warnings are difficult to show on air. Not all of the broadcast vendors are supplying a graphical display of the polygon.*

ACTION ITEM: The determination to use storm-based warnings was on a national scale and we recognize that TV markets and money available to show the polygons are not uniform. Hopefully, the providers who work with the smaller markets will be able to create these graphics soon. The polygons have generally been in use in the larger markets for some time.

COMMENT: *When we issue tornado warnings, it often does not develop if radar indicated only. Some of our users do not want us to issue a tornado warning unless there is actually a tornado because often times it is a false warning.*

ACTION ITEM: Education - The whole point of the warning system to be proactive rather than reactive. Our job is to get the warning out BEFORE the tornado forms, and our basis is Doppler Radar. At the point when we are about to issue a warning, we feel the threat is great enough that you need to know about it and that threat is imminent. Not all storms that exhibit rotation ultimately result in a tornado. They may produce a funnel cloud or the rotation may stay aloft. If we wait until the tornado is reported, we would be doing a disservice.

ACTION ITEM: We will create an online presentation to help you understand the warning process and NWS warning philosophy along with explaining the state of the science.

SEVERE THUNDERSTORM WARNING TORNADO WARNING

COMMENT: *There are gaps in the storm spotter system.*

ACTION ITEM: We will take a closer look at the number of classes/spotters we have in each of our counties. We will try to be more proactive in coordinating with our county officials in counties that have not had a class in a few years. Please contact us if you feel your location is in need of a class.

ACTION ITEM: We are going to work on creating a database of our 2008 spotters and create a map showing how many spotters are in each county and where they are located within the county. We will post this map on our spotter training webpage. Our goal would be to fill in any gaps in the spotter network.

SEVERE THUNDERSTORM WARNING TORNADO WARNING

COMMENT: *The lag time is sometimes too long between reporting to the NWS and the warning catching up.*

ACTION ITEM: Education - Some reports, especially public reports, need to be validated before we can use them. At times, by the time we receive the reports, the storm may be dissipating and there is no need for a warning.

COMMENT: *We need to add phonetic pronunciation for small towns.*

ACTION ITEM: Education - All dictionary work on NOAA Weather Radio was completed when our system was implemented. At this time, it would be impossible to go through the whole dictionary and fix all possible mistakes. We suggest that all comments and suggestions about the phonetics on the NOAA Weather Radio should be relayed to our office via email or phone.

SEVERE WEATHER STATEMENT

COMMENT: *Add more weather expected and some damage reports.*

ACTION ITEM: Education - We do this if we have any information. Sometimes we receive reports too late to include in a statement, and these will always be issued in a local storm report (LSR).

COMMENT: *Need to be more exact with locations.*

ACTION ITEM: Education - We are not issuing statements based on geographic boundaries (county) anymore – we are issuing statements for the storm(s) by tracking the storm. The exact location is already being displayed visually (TV/internet/NWS webpage). Technology has allowed for enhanced services through vendors. NOAA weather radio technology will eventually catch up to allow for more detail in the broadcast. New radar technology is in the NWS's future that may allow meteorologists to pinpoint severe weather with more accuracy.

COMMENT: *We want damage reports, because they feel they are crucial. We want as much info as possible.*

ACTION ITEM: Education - We do the best we can with the information we receive from our spotters and the public. For additional information, see the Local Storm Report for all reports that did not get appended to the Severe Weather Statement. It is our goal to send LSRs within a few minutes of receiving the report. It is our routine practice that a staff member is dedicated to just sending out these LSRs during a severe weather event. Due to the time sensitive nature of this product, we cannot spend too much time typing all reports into the severe weather statement. All reports, surveys and additional information is provided on our website following an event, as soon as we possibly can.

FLOOD WATCH

COMMENT: *The flood watch seems over done at times.*

ACTION ITEM: Education - A flood watch is issued when we believe there is a high likelihood of excessive rainfall over a widespread area that may result in flooding or flash flooding. It purposely covers a broad area because an exact area cannot be pinned down at that time. A watch should put you on a heightened awareness or a higher level of alert.

COMMENT: *Would like a more exact location since it can be vague at times.*

ACTION ITEM: Education -Like a severe thunderstorm or tornado watch, a watch is meant to cover a large geographical area.

FLOOD WARNING (RIVER)

COMMENT: *Warnings that last for days seem to lose their significance and wonder if the threshold for warnings on some of the rivers should be adjusted.*

ACTION ITEM: Education - Our service hydrologist is currently working with county officials to reevaluate flood categories (minor/moderate/major) on area rivers. Changing a river stage is a monumental task which involves many people, such as local officials, farmers, industries along the river etc. River flooding is known to last for weeks to even months, due to excess rainfall, rainfall upstream, snowmelt, and backwater of major rivers into small tributaries. What is important in the warning is the degree of magnitude and the impacts of the flooding. Automated river inundation maps that will be displayable on our website are in our future, but not for another 5 to 10 years.

COMMENT: *Crest forecasts are sometimes omitted.*

ACTION ITEM: Education - Sometimes the expected crest is too far out in time to be reliable. If a crest is available from the RFC, it will always be displayed in the river flood warning. If the crest has already occurred, there will be no crest listed unless the river begins to rise again.

COMMENT: *Need extra updates with current levels, as they would be helpful during major events.*

ACTION ITEM: Education - It is our standard practice to issue river flood warnings/statements every morning. If new information is provided from the RFC, then we will update our warnings in the evening. We are working with the RFCs that serve our area to produce more updates.

COMMENT: *Would like more gages.*

ACTION ITEM: Education - Funding for new gages has to be provided either by the USGS, U.S. Army Corps of Engineers or the local community. Ongoing funding is also required for maintenance and operation.

FLOOD WARNING (RIVER)

COMMENT: *RFC modeling is generally not very good, especially up the Cumberland River.*

ACTION ITEM: We will relay this information to the appropriate RFC and NWS office. Let our office know of specific examples of inaccurate river forecasts, so that we can relay that information onto the RFCs. Also contact our office if you notice any ongoing problems.

HYDROLOGIC SUMMARY









COMMENT: *We have a difficult time finding this product on your website.*

ACTION ITEM: Education – You can find all of our hydrology products in the Flood/Hydrologic Information section on the Text Products webpage. The easiest way to access these products is via the text products webpage: http://www.crh.noaa.gov/pah/weather/prod_index.php Or simply choose TEXT PRODUCTS under the “Forecasts” section on the left side menu on our homepage, then scroll down to the Flood/Hydrologic Information section. Remember there are two Hydrologic summaries that are issued each day, so click on the newest and then the previous version to see both issuances.

All the hydrology products can also be found under the Rivers/Hydrology section on the left hand menu on our website. Click on River Forecasts.

ACTION ITEM: We will work revamping our hydrology page to correctly reflect product names. For example, instead of listing the hydrologic summary, our current hydrology webpage simply states “Morning river and rainfall reports”, which might be confusing.

Flood/Hydrologic Information

Product	Abbr.	Available Items	Help
Flood Watch	FFA	None issued by this office recently.	
Flash Flood Warning	FFW	This product was last issued: 7:02 PM Fri Jul 25th 2008 newest 2	
Flash Flood Statement	FFS	This product was last issued: 8:37 PM Fri Jul 25th 2008 newest 2 3	
Flood Warning	FLW	None issued by this office recently.	
Flood Statement	FLS	None issued by this office recently.	
Hydrologic Outlook	ESF	This product was last issued: 5:15 PM Thu Jun 26th 2008 newest	
Hydrologic Summary	RVA	This product was last issued: 10:09 AM Sat Jul 26th 2008 newest 2 3 4 5 6	
Hydrologic Statement	RVS	This product was last issued: 11:03 AM Sat Jul 26th 2008 newest 2 3 4 5 6 7	

HYDROLOGIC STATEMENT

COMMENT: *The crest forecasts are sometimes omitted.*

ACTION ITEM: Education - Sometimes the crest is expected too far out in time to be reliable. If the crest is provided from the RFC, it will always be displayed in the river flood statement. If the crest has already occurred, there will be no crest listed unless it begins to rise again.

COMMENT: *River forecasts are not very good.*

ACTION ITEM: We will relay this information to the appropriate RFC and NWS office. Let our office know of specific examples of inaccurate river forecasts, so that we can relay that information onto the RFCs. Also contact our office if you notice any ongoing problems.

HYDROLOGIC OUTLOOK

COMMENT: *We would like a stand-alone drought product.*

ACTION ITEM: Education – A drought product has been created. See below for details:

THE DROUGHT INFORMATION STATEMENT /DGT/ WILL PROVIDE A UNIFIED SUMMARY OF CURRENT DROUGHT SEVERITY...INDICES...DATA...IMPACTS...FORECASTS AND PRODUCTS AND OTHER PERTINENT INFORMATION TO ENHANCE THE ABILITY OF THE USERS TO FOCUS DROUGHT MITIGATION EFFORTS ON AREAS OF THE GREATEST NEED. THE DGT WILL RESULT IN DISCONTINUANCE OF USING THE HYDROLOGIC OUTLOOK /ESFPAH/ AND PUBLIC INFORMATION STATEMENT /PNSPAHA/ FOR THIS PRODUCT. THE DGT ESTABLISHES A NEW IDENTIFIER TO BE USED SPECIFICALLY FOR THIS PRODUCT. THE GENERIC WMO HEADING AND AWIPS IDENTIFIER FOR THE DGT AT WFO PADUCAH... WMO HEADING AXUS73 KPAH AWIPS ID DGTPAH

ADDITIONAL INFORMATION ON AWIPS ID AND WMO HEADINGS FOR DGTS FROM OTHER NATIONAL WEATHER SERVICE OFFICES CAN BE FOUND ONLINE AT /USE LOWER CASE/:

[HTTP://WWW.WEATHER.GOV/DM-CGI-BIN/CHGSHOW.PL?FN=DM03-08.10.TXT](http://WWW.WEATHER.GOV/DM-CGI-BIN/CHGSHOW.PL?FN=DM03-08.10.TXT)

IMPORTANT NOTE...USERS OF NWS PRODUCTS MUST UPDATE THEIR COMMUNICATION SYSTEM DIRECTORIES TO RECEIVE THE NEW DGT PRODUCTS. THE DROUGHT INFORMATION STATEMENT WILL INCLUDE THE SAME DROUGHT INTENSITIES...AS INDICATED IN THE U.S. DROUGHT MONITOR. THIS CAN BE FOUND ONLINE AT /USE LOWER CASE/:

[HTTP://DROUGHT.UNL.EDU/DM/MONITOR.HTML](http://DROUGHT.UNL.EDU/DM/MONITOR.HTML)

DROUGHT INFORMATION STATEMENT

Drought information continued:

THE U.S. DROUGHT MONITOR WILL BE THE PRIMARY...BUT NOT NECESSARILY THE ONLY...CRITERIA USED IN DETERMINING WHEN AN INITIAL DGT IS ISSUED. AN INITIAL DGT WILL BE ISSUED WHEN...

1. THE U.S. DROUGHT MONITOR INDICATES A DROUGHT INTENSITY AT THE LEVEL OF D2 OR WORSE IN ANY PORTION OF THE WFO COUNTY WARNING AND FORECAST AREA...OR
2. A LESS SEVERE CRITERION IS REACHED...IF THIS IS MORE APPROPRIATE FOR LOCAL PARTNERS AND OTHER USERS. ALTERNATE CRITERIA FOR ISSUANCE OF INITIAL DROUGHT INFORMATION STATEMENTS MAY BE SPECIFIED IN CERTAIN REGIONS OF THE COUNTRY. ONCE AN INITIAL DROUGHT INFORMATION STATEMENT HAS BEEN ISSUED...FOLLOW-UP DROUGHT INFORMATION STATEMENTS WILL BE ISSUED AT LEAST ONCE A MONTH. MORE FREQUENT ISSUANCES OF THE DROUGHT INFORMATION STATEMENT WILL OCCUR WHEN DROUGHT CONDITIONS CHANGE OR WHEN A LOCAL OR REGIONAL CRITERION HAS BEEN MET REQUIRING AN UPDATE.

THE NORMAL 120 DAY NOTIFICATION PERIOD ASSOCIATED WITH SERVICE CHANGE NOTICES INTRODUCING NEW NWS PRODUCTS WAS WAIVED IN THE INTEREST OF PROTECTING LIFE AND PROPERTY IN DROUGHT STRICKEN AREAS WITH THE PROVISION OF THESE NEW PRODUCTS.

ADDITIONAL INFORMATION ON DGT POLICY...INCLUDING PRODUCT FORMAT AND EXAMPLES ARE ONLINE AT /USE LOWER CASE/:

[HTTP://WWW.WEATHER.GOV/DIRECTIVES/SYM/PD01012001CURR.PDF](http://www.weather.gov/directives/sym/pd01012001curr.pdf)

DAILY CLIMATE REPORT

COMMENT: *We receive multiple copies of the 5pm climate report.*

ACTION ITEM: This has been addressed and should be fixed. If you are still having this problem, contact us immediately.

COMMENT: *Snowfall updates would be helpful.*

ACTION ITEM: Many of the initial snowfall reports are issued via the Local Storm Report (LSR). A Public Information Statement would be issued to summarize snowfall amounts for an event. Snowfall reports will also be available in graphical form in the very near future.

COMMENT: *This product is confusing to read; make it more user friendly.*

ACTION ITEM: Education - We are restricted to a standardized format due to commercial software used by media groups and private entities. However, if you have specific ideas on how to make the daily climate report more user friendly, please contact us and we can request formatting changes.

DAILY CLIMATE REPORT

COMMENT: *We would like to see a daily climate report for more cities.*

ACTION ITEM: It is currently in the works to have a daily climate report for Cape Girardeau, MO, Carbondale, IL, Poplar Bluff, MO, and Owensboro, KY. In the meantime, up-to-date climate summary data (called F6 data) is available on our website for those sites including Paducah, KY and Evansville, IN.

To find the F6 data:

1. All climate data can be found under the “Climate” section on the left hand side of our homepage. Click on LOCAL under the Climate section:

2. Under the Observed Weather Tab - Click on the Preliminary Climatology Data (CF6) button.

3. Choose the location you want and then the time frame.
4. Click on Go and you will see the data.

5. On the next slide, you will see an example of what the F6 data looks like.

Observed Weather Climate Locations Climate Prediction Climate Resources Local Data/Records Astronomical NOWData

Observed Weather Reports

1. Product »
☐ Daily Climate Report (CLI)
☒ Preliminary Climatology Data (CF6)
☐ Record Event Report (RER)
☐ Monthly Weather Summary (CLM)
☐ Regional Summary (RTP)

2. Location »
Evansville, IN
Paducah, KY
Carbondale, IL
Cape Girardeau, MO
Poplar Bluff, MO
Owensboro, KY

3. Timeframe »
☒ Most Recent
☐ Archived Data:
July 2008
June 2008
May 2008
April 2008
March 2008
February 2008

4. View »
Go

[Storm Event Database \(SPC\)](#)
[Storm Data \(NCDC\)](#)

Product Description:
PRELIMINARY CLIMATOLOGY DATA (CF6) - updated frequently:
Daily weather statistics for the month, including temperatures, precipitation, degree days, wind and sky cover. In addition, monthly statistics such as average temperatures and departures from normal, degree days, and rainfall are also included. This product is available for up to 5 years.

F6 DATA

STATION: CAPE GIRARDEAU ASOS
MONTH: JULY
YEAR: 2008
LATITUDE: 37 13 N
LONGITUDE: 89 35 W

TEMPERATURE IN F:				:PCPN:				SNOW:			WIND		:SUNSHINE:				SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18		
										AVG MX 2MIN										
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR		
1	87	58	73	-6	0	8	0.00	0.0	0	4.0	14	190	M	M	1		17	180		
2	90	65	78	-1	0	13	0.00	0.0	0	9.6	20	230	M	M	0		25	190		
3	82	68	75	-4	0	10	0.00	0.0	0	5.0	18	330	M	M	5		25	330		
4	78	64	71	-8	0	6	0.03	0.0	0	4.1	13	360	M	M	7	138	15	360		
5	83	61	72	-7	0	7	T	0.0	0	3.4	10	40	M	M	2	128	14	50		
6	90	64	77	-2	0	12	0.00	0.0	0	4.9	13	230	M	M	2	18	17	260		
7	93	72	83	4	0	18	0.00	0.0	0	3.9	18	230	M	M	1	1	24	240		
8	93	71	82	3	0	17	0.37	0.0	0	5.5	26	240	M	M	2	13	39	270		
9	80	70	75	-4	0	10	0.33	0.0	0	3.0	22	340	M	M	6	13	26	340		
10	86	68	77	-2	0	12	T	0.0	0	3.2	9	150	M	M	3	12	13	220		
11	91	73	82	3	0	17	0.00	0.0	0	6.0	13	170	M	M	3	1	17	170		
12	94	73	84	5	0	19	0.55	0.0	0	6.6	29	340	M	M	2	13	37	350		
13	85	64	75	-5	0	10	0.00	0.0	0	6.0	13	10	M	M	1		17	10		
14	87	60	74	-6	0	9	0.00	0.0	0	2.3	12	20	M	M	0		14	350		
15	89	62	76	-4	0	11	0.00	0.0	0	2.1	9	240	M	M	1		14	230		
16	90	63	77	-3	0	12	0.00	0.0	0	2.6	9	120	M	M	0	1	15	140		
17	91	63	77	-3	0	12	0.00	0.0	0	2.2	10	70	M	M	0	18	15	70		
18	92	66	79	-1	0	14	T	0.0	0	2.3	8	170	M	M	0	18	12	210		
19	93	67	80	0	0	15	0.01	0.0	0	3.2	24	340	M	M	0	138	31	340		
20	97	69	83	3	0	18	0.00	0.0	0	4.3	13	230	M	M	0	18	17	240		
21	96	71	84	4	0	19	0.00	0.0	0	4.0	12	190	M	M	0	18	15	210		
22	87	69	78	-2	0	13	0.39	0.0	0	4.8	22	340	M	M	2	138	28	350		
23	85	63	74	-6	0	9	0.00	0.0	0	5.9	16	30	M	M	2	1	20	20		
24	82	58	70	-10	0	5	0.03	0.0	0	3.1	9	330	M	M	2	1	13	330		
25	91	71	81	1	0	16	0.22	0.0	0	4.4	21	360	M	M	2	13	28	360		
=====																				
SM	2212	1653			0	312	1.93		0.0	106.4			M			44				
=====																				
AV	88.5	66.1								4.3	FASTST	M	M	2		MAX (MPH)				
										MISC ---->		#	29	340			#	39	270	
=====																				

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: CAPE GIRARDEAU ASOS
MONTH: JULY
YEAR: 2008
LATITUDE: 37 13 N
LONGITUDE: 89 35 W

[TEMPERATURE DATA]	[PRECIPITATION DATA]	SYMBOLS USED IN COLUMN 16
AVERAGE MONTHLY: 77.3	TOTAL FOR MONTH: 1.93	1 = FOG OR MIST
DPTR FM NORMAL: -2.2	DPTR FM NORMAL: -0.86	2 = FOG REDUCING VISIBILITY
HIGHEST: 97 ON 20	GRSTST 24HR 0.67 ON 8- 9	TO 1/4 MILE OR LESS
LOWEST: 58 ON 24, 1		3 = THUNDER
	SNOW, ICE PELLETS, HAIL	4 = ICE PELLETS
	TOTAL MONTH: 0.0 INCH	5 = HAIL
	GRSTST 24HR 0.0	6 = FREEZING RAIN OR DRIZZLE
	GRSTST DEPTH: 0	7 = DUSTSTORM OR SANDSTORM:
		VSBY 1/2 MILE OR LESS
		8 = SMOKE OR HAZE
		9 = BLOWING SNOW
		X = TORNADO

[NO. OF DAYS WITH] [WEATHER - DAYS WITH]

MAX 32 OR BELOW: 0 0.01 INCH OR MORE: 8
MAX 90 OR ABOVE: 13 0.10 INCH OR MORE: 5
MIN 32 OR BELOW: 0 0.50 INCH OR MORE: 1
MIN 0 OR BELOW: 0 1.00 INCH OR MORE: 0

[HDD (BASE 65)]
TOTAL THIS MO. 0 CLEAR (SCALE 0-3) 22
DPTR FM NORMAL 0 PTCLDY (SCALE 4-7) 3
TOTAL FM JUL 1 0 CLOUDY (SCALE 8-10) 0
DPTR FM NORMAL 0

[CDD (BASE 65)]
TOTAL THIS MO. 312
DPTR FM NORMAL -35 [PRESSURE DATA]
TOTAL FM JAN 1 762 HIGHEST SLP M ON M
DPTR FM NORMAL -63 LOWEST SLP 29.85 ON 8

DAILY CLIMATE REPORT

ACTION ITEM: Once we begin sending climate reports for the other sites, our climate webpage will be updated to include these additions.

ACTION ITEM: As far as adding other stations beyond those 6 mentioned, in order to provide a climate report for a location, it must have an observation station. These stations need to have historical data and records. There are different types of observation stations. We have ASOSs, AWOSs, and AWSSs.

The Automated Surface Observing System (ASOS) and the older Automated Weather Observing System (AWOS) are sensors used to measure and record hourly and significant weather conditions at airports across the United States. The newer Automated Weather Sensor System (AWSS) is the successor to AWOS, reporting once per minute. ASOS units are implemented cooperatively, with the National Weather Service operating them and the Federal Aviation Administration (FAA) distributing information to pilots. AWOS and AWSS units are operated and controlled by the FAA; the NWS plays no role in their operation or deployment. For more information:

<http://www.srh.noaa.gov/jetstream/remote/asos.htm>

<http://www.nws.noaa.gov/asos/>

The AWOS and AWSS sites are not quality controlled and do not provide the quality data that the ASOSs do. For more information about the area's highs, lows and precipitation amounts, refer to our RTP (Regional Temperature and Precipitation) Product, which use the ASOS data and many of our cooperative observers data as well.

The NWS has thousands of cooperative observers who take observations as well. You can contact the Midwestern Climatic Data Center (<http://mcc.sws.uiuc.edu>) or the National Climatic Data Center (www.ncdc.noaa.gov) for more information on these locations.

DAILY CLIMATE REPORT

COMMENT: *We would like the High/Low/Precipitation for KCGI on the 5pm product.*

ACTION ITEM: A daily climate report for Cape Girardeau MO is already issued at 430pm.

COMMENT: *The climate normal should run to current year. It ends with 2000, nearly 7 yrs old.*

ACTION ITEM: Education - According to the National Climatic Data Center, the 30 year climatological normals are updated every 10 years. Therefore, the next 30 year climate record will run from 1981-2010, but due to the monumental task of running these normals for more than 10,000 stations across the country, it will not be available until 2012. As far as trying to run the 30 year normals more often, say every year, this would not make mathematical sense due to the redundancy. There would be no gain in accurate data by adding a year and then losing the oldest year (i.e. 1972-2001). The 30 year normals are run every ten years so that we are able to get a decent average of the weather.

ACTION ITEM: Check out this website: <http://cdo.ncdc.noaa.gov/CDO/cdo>

It will enable you to access normals (up through the year 2000) in any interval you wish. Once at this website, choose DataSet/Product (Under Search Options), then Dynamic Normals Product and click on Access Data. Choose from many different types of data and then click on Continue. Then choose Daily Normal Serial. From there, choose a state and a site and then choose which years to investigate (i.e. 1995-2000).

MONTHLY CLIMATE REPORT

COMMENT: *We would like more cities included.*

ACTION ITEM: Again, as with the daily climate report, we are currently working on producing daily and monthly climate reports for 4 additional cities: Poplar Bluff MO, Carbondale IL, Cape Girardeau MO and Owensboro, KY. Once this process is complete, we will update our website.

COMMENT: *We would like a more timely issuance of this product on the 1st of every month.*

ACTION ITEM: Even though the National Weather Service Directive states that this product will be issued no later than the 5th day of the following month, local management at the NWS in Paducah is working to make a local policy that would mandate that the Monthly Climate Report will be issued on the 1st of every month.

COMMENT: *We would like an annual climate summary and even a long term summary (from start of record period through most recent year).*

ACTION ITEM: We will investigate this by contacting National Weather Service Headquarters. NWS Headquarters is already working on creating Annual Climate Summary products and we will find out the status.

COMMENT: *It is confusing to read, make it more user friendly.*

ACTION ITEM: Educate users that we are restricted to a standardized format due to commercial software used by media groups and private entities. However, if you have specific ideas on how to make the daily climate report more user friendly, please contact us and we can request formatting changes or possibly create a brand new product.

REGIONAL TEMP/PRECIP SUMMARY

PROBLEM: *We would like more cities included.*

ACTION ITEM: Education - The intention of the RTP is to provide quality controlled data, which would be confined to the ASOS data. The ASOSs in our county warning area include: Poplar Bluff MO, Cape Girardeau MO, Paducah KY, Carbondale IL, Evansville IN. Owensboro KY is an AWSS and was added due to a congressional request. However, there is additional cooperative observer data with a secondary morning RTP that is issued mid morning. For even more precipitation reports, refer to hydrologic summary and the COCORAHS Precipitation Summary for precipitation totals.

COCORAHS stands for Community Collaborative Rain, Hail and Snow Network. CoCoRaHS is a unique, non-profit, community-based network of volunteers of all ages and backgrounds working together to measure and map precipitation (rain, hail and snow). By using low-cost measurement tools, stressing training and education, and utilizing an interactive Web-site, the aim is to provide the highest quality data for natural resource, education and research applications. For more information: <http://www.cocorahs.org>

ACTION ITEM: The LCOPAH (COCORAHS Precipitation Summary) is not yet available on our hydrology page and text products page. We will work to add the product.

HAZARDOUS WEATHER OUTLOOK

COMMENT: *We would like more detail in this product.*

ACTION ITEM: Education - The intention of this product is to summarize all potential weather hazards during the next 7 days. Brevity is intentional...it is a first stop product to let you know that there are hazards. Your next stop should be specific products relating to the hazard like the Area Forecast Discussion, Watches, Warnings, and Advisories, and SPC products.

SPECIAL WEATHER STATEMENT

COMMENT: *We would like a little more data on storms at times.*

ACTION ITEM: The local office policy is to issue a special weather statement for near severe storms (i.e. winds at least 40 mph and less than severe (58 mph), any size hail below severe criteria or intense lightning). We will ensure this office policy is followed.

COMMENT: *We would like to see emphasis on lightning safety.*

ACTION ITEM: We look for opportunities to highlight the highly electrical storms (unusually high frequency, nearly continuous lightning, rapidly occurring cloud to ground strikes) in this product. Also, we utilize lightning call to action statements with our severe thunderstorm and tornado warnings if applicable.